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Vol. XLIX MAY, 1929 MAY 6 1929 No. 9

EDUCATION

A MONTHLY MAGAZINE

DEVOTED TO THE SCIENCE, ART, PHILOSOPHY AND LITERATURE OF EDUCATION

WITH WHICH IS COMBINED "THE AMERICAN EDUCATION"

FRANK HERBERT PALMER, A. M., EDITOR

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BOSTON

Published by THE PALMER COMPANY, 120 Boylston Street

LONDON E. C., WM. DAWSON & SONS, LTD., CANNON HOUSE, BREAMS BUILDINGS

Entered as second-class matter at the Post Office at Boston, Mass., under the Act of March 3, 1879

Price 40 cents $4.00 a Year

INFORMATION ABOUT

THE MAGAZINE "EDUCATION"

Established in 1880 by the late Hon. Thomas W. Bicknell, Notable American Educator.

Its first article (on Text-Books and Their Uses) was by Hon. William T. Harris.

The present Editor joined the Editorial Staff in May, 1892.

All articles in Education are original contributions, not to be had elsewhere.

Its contributors are, practically all, able and active Educators.

Aims to aid all School and College Officials and Teachers in solving their daily problems.

Its issues are monthly, from September to June inclusive.

Most Librarians bind the numbers annually, in July or August.

A Title Page and a Table of Contents for a given Volume appear in the June issue.

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49th YEAR AND VOLUME BEGINNING SEPTEMBER, 1928

$4.00 A YEAR ***FOREIGN POST, 30c a yr.*** ***CANADIAN POST. 20c a yr.***
Per Number 40c ***No Issues in July and August***

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120 BOYLSTON STREET FRANK HERBERT PALMER, A. M., EDITOR **BOSTON, MASS.**

EDUCATION

Devoted to the Science, Art, Philosophy and Literature of Education

VOL. XLIX. MAY, 1929 No. 9

A Plea for a More Appreciative Coöperation Between Scientist and Philosopher in Education

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THE old saying about giving the devil his due is hardly symbolic of the spirit in which this plea is undertaken. Nevertheless, there is much in the historic background of both philosophy and science which savors of such a spirit. Years, decades, even centuries there have been, when each has given the other considerable cause for worry and unrest. Every point on a fluctuating scale from open indifference to secret or avowed hostility has been touched by each in its changing estimates of the other.

Whether we believe in a personal devil or not, much can be said, and, perhaps, some day will be said, in his defense, when considered as the embodiment of human error and societary evil. For these have truly played their significant part in the mental and moral evolution of mankind. So might we consider the history of the warfare between scientist and philosopher. It has undoubtedly made a constructive contribution, in the long run, during the "days of man's innocence," if for no other reason than its service as a sharpener of their mental tools caused by the mutual struggle to give a "reason for the faith that was in them."

But like most human warfare, the devastation and horrors are soon forgotten, and perhaps it were better so. At least, cessation from reflection upon the errors and horrors of past wars gives time and strength for constructive thinking in the direction of larger coöperative effort. And neither the scientist nor the philosopher will deny that the "days of man's innocence" are long since past. Coöperation, not competition, is, or should be, the supreme objective of all human institutions interested in the progressive evolution of society. To a far greater degree than has ever been known before, there is some apparent coöperation evident between scientists and philosophers in general. But in the field of education, where the scientist has long since held the upper hand, and where the modern philosopher has only recently been coming into his own, there is grave danger that history will repeat itself, unless a spirit of deeper appreciation and wider cooperation shall come to dominate both the scientist and the philosopher in their educational efforts.

This danger can, and should, be avoided. The world of human intelligence is turning increasingly to education with the hope and confidence that it alone can furnish mankind both the tools and the social vision to insure that more abundant experience for which life was given. There is, therefore, sound reason and insight in the challenge both to scientist and philosopher that each shall save his own soul by losing it in genuine appreciation, coöperation, and participation in the life of the other, as they labor together that education may surely fulfill the mission of her high calling. All the criminal offenses in the court records of the world could not compare in their detriment to the human race with the high crime against society which would inevitably result were there to develop to any great extent or lasting degree two rival camps in the field of education, the one led by the scientist, the other by the philosopher. If either dominates or is driven out, education will fail. She will succeed only as both

shall share and share alike in the honors and the responsibilities of this greatest of all human tasks.

The unshakable confidence in education as a means of progress has been typical of philosophers in all ages. Immanuel Kant's words well illustrate this truth: "A complete design of a theory of education is an inspiring ideal, and no matter if it cannot at once be realized. . . . Education is an art that must be perfected through many generations. Therefore, it is the greatest problem and the most difficult that can be laid upon human beings. And yet, what glorious results may follow! Education is that source from which everything good in the world springs." The wiser, the more far-seeing the man, the more comprehensive his philosophy of life, the more willing he is to stake his all on right education.

But education is more than an art or a philosophy of life. Quite recently the scientist has been unearthing a body of objective data sufficiently important and numerous to make possible the positing of certain methods of procedure and technique in the educational process to bring it into the realm of a true science. So we have the science of education and the philosophy of education.

Writing on "Philosophy and the Sciences" in the September 16th issue, 1927, of "Science," John S. Moore says: "Nothing is more to be desired in the world of scholarship today than a sympathetic understanding between philosophers and scientists." If in the general field of knowledge, their tasks are "vitally inter-related" how much more is this true of their respective tasks in education! For here they are "inextricably inter-dependent." The scientist in education must look to the philosopher to correlate, interpret, and evaluate his data. The philosopher must recognize as important to his premises the data discovered by his scientist brother. The scientist needs to deepen, broaden, and illumine the comparatively narrow range of his interests by contact with the synoptic spirit of his brother philosopher.

This plea, for a more appreciative coöperation between scientist and philosopher in education, is based upon the growing conviction that education must solve the riddle of human society if it is to be solved at all, and upon the added conviction that it can and will solve it only as the scientist and the philosopher each recognizes the respective importance and essential nature of the other's contribution. Both must break away from the old motto, "Let's stick to our own job and plow our own field." There must be something more than a "laissez faire" liberality on the part of each. The mutual appreciation must be of that genuine sort which culminates in mutual cooperation at all times for the advancement of education.

Nor does this mutual participation in the interests each of the other imply a sort of "jack of all trades and master of none." Education at its best must recognize that "life is deeper than logic" and also than measurements and statistics. Life's daily needs and exigencies compel us all to act many times whether we know all the facts or not; whatever the degree of our knowledge or ignorance. Even the scientist lives and acts in the field of his personal and social conduct more on the basis of shrewd guess-work than scientific formula. At a given time it is seldom if ever possible for any human mind to comprehend and weigh accurately *all* the possible future consequences of his present conduct or action. At the most, he must and does govern himself by the elements of greatest probability involved in possible future consequences.

But the field of greatest probability is in a unique way the philosopher's special field of investigation. It is true of the philosopher of education. There must be a philosophy of education to analyze, interpret, evaluate, and synthesize the objective findings of the scientist. It was William James on the first page of his "Pragmatism" who wrote ". . . the most practical and important thing about a man is still his view of the universe." And this is equally true whether we apply it to the

universe of which we are a part, to the world of universes, or to the universe of education and the other arts.

We think it important today that the merchant should know the size of his customer's bank account to whom he extends credit; but it is still more important to know his customer's philosophy of life and human relationships. In the field of educational administration it is seemingly very important to know the number and nature of academic appendages which weigh down a man's name; but it is still more important to know an educator's philosophy of life and of education.

Sometimes the term "scientist" has been made to cover a multitude of scientific errors, providing only his methods of procedure and technique of research are sufficiently systematic and statistically objective. There is less and less place in the field of education for such a scientific anomaly. On the other hand, the term philosopher, at times in its history, has been made to designate the metaphysical magician or juggler, or the hermit dreamer whose method of procedure and technique in research are symbolized by daily excursions upon the sea of idle fancy, with the hourly contemplation of his vest button serving as the pole of his compass. It is refreshing to learn that neither the scientific anomaly above mentioned, nor the pseudo-philosophic character described has any permanent abiding place in the field of education.

There is a scientist who outdistances in faith and hope the farthest reach of the metaphysician's wildest speculations. There is a philosopher of life who drives his shaft of light and faith far beneath the bedrock strata of scientific explanation until there gushes forth a water of life from the very source of the eternal verities, as yet unfathomed by either. It is this newer type of scientist and philosopher upon which the newer and better education must depend for the freer and finer fulfillment of her humanitarian mission.

But education is no more immune to traditional theory and practice than are religion and government. There are times

and places where it would appear that education, though accomplishing much in the way of producing the open mind of educands, has done little for her own mind in the way of broad, progressive thought and action, so tenaciously does she cling to many outworn, if not worn-out practices. Page assignments, credits, scores, and grades are still with us even in the field of higher education, of university and graduate rank. The scientist in education is doing much to reveal by objective findings and statistical data, measurements, and correlations, many erstwhile sanctified aims and methods. But the phrase "After Measurements, What?" captioning a recent article, well expresses, and in vivid fashion, the growing need for the work of the philosopher of education. Let us give the leaders in research in education the full praise and honor which is their due for the increasingly important revelations achieved thru standardized tests and measurements. It is extremely interesting and significant to the philosopher of education to note the progress which his scientific colleague is making in the direction of objective measurements applied to those intangible realities of life such as emotions, will, genius, and character. If he succeeds, will it mean the ultimate elimination of the philosopher from the field of education or the other progressive human institutions?

In "The Advancement of Learning" after a thorough survey, pouring the seed of his thought into every science, Francis Bacon comes to the conclusion that science by itself is not enough; there must be a force and discipline outside the sciences to coördinate them and point them to a goal. Then he continues: "What science needs is philosophy—the analysis of scientific method, and the coördination of scientific purposes and results; without this any science must be superficial." Could the truth of this statement made so many years ago be any more apparent or challenging than when applied to the field of education? He condemns the habit of looking at isolated facts out of their context, without considering the unity

of nature; as if, he says, "one should carry a small candle about the corners of a room radiant with a central light."

There is danger in the overwhelming tendency toward specialization in all fields of human endeavor. Education, like the other, has fallen heir to her full share of error and dangers resulting from the prevalent meticulous particularization craze. True, since the earliest days of education, largely based on theological, or philosophical dogma and speculation, we have made tremendous strides in the direction of verifiable, objective knowledge of the truth. Yet, with truth itself a relative term, here today, and given up tomorrow for that which, in the last analysis, more nearly approaches the greatest probability, we are playing essentially the same game that our ancestors did, namely the best guess. Only we insist today on scaffolding our guesses with masses of objective data, accepting for the present, at least, the theory that the greater the objectivity the more probable the accuracy of the solution proposed.

Out of the two extreme types of scientist and philosopher, education can hope for nothing but stagnation. There is need of something better than a respectful tolerance bordering on actual indifference between the two. The true scientist in education, seeking the highest value for his objective data, its fullest use for humanity, will either turn philosopher himself, or find it distinctly to his advantage to take an active, genuine interest in the philosopher's work. The true philosopher, with the same goal in mind,—namely, future social consequences,—will not ignore the objective data furnished by his scientific colleague in the adventure of education. Each needs the other. Neither attains his highest usefulness to society, thru their common instrument of education, without recognizing and utilizing some of the methods and means of the other.

A strong plea for a closer union between philosophy and scientific research in education, taken from Bulletin No. VI.

(May 11, 1927) 208-09, Bureau of Education Research, Ohio State University, under the caption "Research and Philosophy" further emphasizes the need for an ever-increasing appreciation and coöperation between scientist and philosopher in this field:

"To divorce philosophy and research is impossible, as impossible as it is to divorce experimental from introspective psychology. And for the same reason. Without the descriptive and speculative processes, the experimental or scientific activities lack interpretation. Without the scientific methods, philosophical inquiry lacks concreteness. Without science, philosophy is uncertain, conflicting, and unconvincing. Without philosophy, science is blind, unmeaning, and petty. We can imagine no more helpful educational organization than that which should exalt both philosophy and research . . . a school of education in a great university should, in our judgment, elevate its research activities through the directive and refining influence of the best philosophical thought. This does not appear to be thought of. The craze today is for measurement—for counting and comparing in quantitative terms. It would be as silly as it would be untrue for us to deprecate this type of thinking. But there come times when the merely quantitative seems incomplete and unsatisfactory. We observe, moreover, that those research workers are most influential who appeal most frequently to higher sanctions than central tendencies, or curves of error."

This throws an added ray on what must be increasingly apparent to thoughtful educators the world over, namely, that there is no ground nor time for indifference or antagonism on the part of either scientist or philosopher in education. On the contrary, there is grave need for a larger appreciation each of the other's task and contribution. Not a mere passive recognition or "laissez faire" liberality, but a deliberate, purposeful coöperation. Wherever possible, this should merge into an interested participation in each other's problems and

achievements in the interest not so much of "higher" education as of "broader" education.

Under these conditions Education herself would enter into her rightful leadership, not as a petty problem-seeker and solver, but as the supreme director and controller of human evolution. With sympathetic appreciation and mutual coöperation of educational scientist and philosopher an achieved fact, we might well expect education to lead the world in that higher and far nobler "preventive" method of social control. It would mean the most courageous undertaking and achievement in the history of mankind. No more would we look upon society from the pathological viewpoint which assumes a weakness, seeks a problem, and suggests a remedy or solution. But Education would then be able to posit her aims and standardize her methods in terms of "prevention" of weakness and avoidance of problems. Then every situation in human activity and conduct would become not a "problem" but an "adventure", and every control not a "solution" but an "experiment", in the direction of higher and better social control.

Quest's End

He sought it amid the opalescent seas,
On magic isles, where nymphs and mermen played
Beneath the feathery fronds of tropic trees
On golden sands, or dreamed in scented shade;
He quested where vast mountains towered high
With peaks majestic, rugged, proud, like kings
Cloud-crowned and robed with forests — 'neath a sky
Unmindful of the mad world's bickerings;
He searched for it where white-spired cities gleamed
Amid red deserts, arched by one blue dome
Unmarred by clouds . . . A hopeless task it seemed,
So wearily the seeker wandered home—
To find, beside the brook his worn feet laved,
His humble farm, the paradise he craved!

—Harold Willard Gleason.
Kingswood School, West Hartford, Conn.

How Teachers May Help Students Secure Positions

LOUIS W. MC KELVEY,
907 W. OREGON STREET, URBANA, ILLINOIS

"I WANT to get a job, and I don't know a thing about how to go about it. Will you help me, please, Miss Brown?"

There are times when it is rather distressing to be considered omniscient, and, for many teachers, this is such a time. The job of getting a job is always a peculiarly individual one, and for this reason a busy person, when approached upon the subject, is almost forced to limit his advice to generalities upon the value of alertness, initiative, perseverance, etc.

Strangely enough, contenting oneself with general advice is sometimes rendering the very best assistance possible. The "hands off" policy seems heartless, and yet, if the student is at all resourceful and is shown that one who knows him has confidence in his ability to land a job "on his own hook," he will usually succeed without definite guidance. When he does so, he has of course profited greatly in that he has learned something of self-reliance, and gained a bit of the self-confidence so necessary in the development and exercise of initiative.

All cases may not be disposed of in this summary fashion, however, for if forced to shift for themselves, some students would be hopelessly bewildered and certain to meet with nothing but discouragement and failure. For assisting students thus in need of encouragement, the following suggestions will perhaps be helpful.

First there is the problem of how employment may be located. There are three ways in which this may be done. One

is to watch the help-wanted columns in newspapers and magazines; a second is to enlist the aid of friends and acquaintances; and still another is to write to men likely to need such services as students might render. An applicant for an advertised position almost always faces keen competition, and, just at the time when a job is most urgently wanted, friends generally do not know of any openings. For these reasons, and because it is seldom used, the third method—that of writing an unsolicited letter to a number of firms likely to have the kind of work the student is seeking—is probably the most satisfactory.

Whatever the means used to get in touch with a prospective employer, the student will probably need to write a letter of application, and in the planning and wording of this letter the teacher can be of material assistance. Perhaps most teachers are tempted to be quite didactic about the application letter, and to reduce their help to: "You do this, and you do that." To the student rules are likely to be just rules, however, and for this reason it is probably advisable to seek a fresh approach to the problem.

My own procedure is to rummage about in my files till I find a good application letter that I know I have hidden there somewhere for just such a contingency. Then, with the letter ready on the desk before me, I suggest to the student that as a preface to any writing we follow the practice of good letter-writers—imagine the circumstances under which our letter will be read, and the standards by which it will be judged.

"Let us just suppose," I say, "that you and I are partners. As our first undertaking, let us imagine what our feelings would be as we'd read some application letter that might come to us.

"Probably the letter would be one of quite a number awaiting us when we reach the office in the morning. We'll want to get our desk cleared up as soon as possible so we can get at the routine matters of the day. Consequently we will be

in a hurry. We'll drop letter after letter into the waste basket unread. One glance will be enough to assure us that we're not interested, for these letters will look cheap, sensational, etc. Some letters we will not dismiss so lightly, though—and some we will study with care. We won't dare throw away any important looking letters unopened . . . and that's worth remembering, isn't it!"

I pick up the letter which has been waiting.

"All right, now we've worked our way down to this application letter. It looks worth while, doesn't it? The stationery is plain white, of good quality, of standard size—and clean. The envelope is addressed properly and the stamp sits squarely in the right hand corner. Whoever put it there did so carefully.

I slip the enclosure from its envelope. It crinkles importantly as I unfold it, and both the student and I note that it has been folded in such a way that when opened the message greets us right side up. We find the sheet to be of standard business size, 8½ x 11—quite properly, too, we decide, for this is strictly a business affair, and the folder of social usage would be altogether out of keeping. "Like a girl had written it," my student friend will sometimes volunteer, especially if he is a boy.

"Well," I say, "shall we read it?"

A purely rhetorical question, of course, for unless the student's nod comes quickly, I will already have answered myself affirmatively.

"Yes, indeed, we'll read it. It looks attractive, and it's so short it will only take a moment, anyway. What makes it so inviting? The fact that it has been typed, and so neatly typed, for one thing. The way it is placed on the page, for another. There is a generous margin on each side and a little more white space at the bottom than at the top. We may be sure that it didn't just happen that way.

"Now, for what he had to say. First of all, we want to know what the letter is about. The first line tells us, defi-

nitely, too. And the moment we know that here is some one who wants to work for us, we are interested in his qualifications. We want to know facts about his education and training—exactly where he went to school, exactly when he went there, and any specific subjects he has taken which would help him in our work.

"And what about his experience? Has he done work of this kind before? Or, for that matter, has he ever done any work before? We don't expect a young man to have done much—he hasn't had time—but we *will* like him better if we find that he hasn't been content to do nothing, won't we?"

The student will nod. (I wait for nods and other such evidences of the student's interest. The more the analysis is a partnership affair the better, of course.)

"We're agreed, then, that the young man has done pretty well this far, at least. He sounds like the kind of a man we want and we're interested. We don't want to make a snap judgment, though, so we would like to know whether others, people who know him well, think of him as we do. For this reason we look for references. Sure enough, here they are.

"There's just one thing more. If what his references have to say about him is satisfactory, we will want to have the boy in for an interview. We can send him a letter, of course, but perhaps we will want to get in touch with him more quickly. That would mean calling him over the phone —and yes, here's his telephone number. He's thought of about everything, hasn't he . . . and we can't help but like thoughtful people.

"Now let us see what we have learned about this person merely from reading his letter. We know that he is exceedingly neat. We have found him respectful. We have liked his directness. We have tangible proof of his ability to think clearly and to the point, and the capable and workmanlike way he has written this letter can't help but make us feel sure that he would handle well any work we might have for

him. We like him both because of *what* he has written and because of the manner in which he has written it."

When I have carried a student with me this far, I ask whether or not he thinks the time and care that this boy must have spent on his letter was worth while. If he agrees with me—and he usually does—I feel that he is ready to write his letter.

In going over the letter that he later brings me, I am quite didactic in checking spelling, punctuation, and mechanical form. I see that all essential data has been included and that there are no loose or exaggerated statements. I make sure, too, that the tone is right—not servile, or pleading, or boastful, or "smart," but frank, sincere, and respectful.

With the letter's diction I tamper as little as possible. The moment I try to graft my vocabulary, my way of saying things, upon that of the student's, I feel that I rob the letter of any individuality it may possess. I try to see that the diction is not stilted and formal, nor dull and stereotyped—and that is all. One expects traces of artlessness in the letter of a high school student, and often an oddity of expression gives just the amount of freshness necessary to make the letter stand out and be pleasingly noticeable. One sixteen-year-old girl ended her letter with, "I would be so happy to hear from you." I thought that the remark, naive as it undoubtedly was, was permissible for her, and apparently an employment manager did too, for she won a job with her letter in the face of very keen competition.

One further suggestion—don't allow the student to overlook the possibilities of a follow-up to his application letter. If within a week or ten days after the first letter has gone out, no reply has been received, the student will find it worth his while to send as a second letter a brief, courteous, to-the-point reminder of his interest in the position. This will serve as an assurance that he is still available, and if it is kept in mind that the follow-up is intended merely to supplement the letter which has gone before, there will be no

danger of the second letter's degenerating into a colorless copy of what has already been written.

The first sentence of the follow-up should refer briefly to the previous application letter and state exactly what position is being sought. The next few lines deal with why the follow-up is being written. It may be that the writer wishes to supplement the information given in his first letter; it may be that he is writing because he must secure work at once; and in some cases it will be because he is offered another position and must either accept or refuse it at once. In case it is for the last-mentioned reason, the writer must be quite specific about the alternative position that he is offered. Otherwise the prospective employer will consider it just a cheap subterfuge to secure action—and resent it accordingly.

The tone of the follow-up is uniformly courteous. There must be no hint of reproach for the employer's negligence in not replying to the first letter. Neither must there be any attempt to explain away his not having written because of his having been too busy, etc. The employer has no need to explain why he hasn't evinced an interest.

There will be few letters of this kind used, and for this reason the student's follow-up is almost certain to receive a hearing. The spirit which prompts the writing of such a letter will almost always meet with hearty approval, and often the letter will win its writer an interview.

8219 Dayton St.
Chicago, Illinois
September 30, 1928

Johnson & Company
Holman Ave. & Arthington
Chicago, Illinois
Gentlemen:

Your advertisement in the *Tribune* this morning asks for a general office clerk. I would like to apply.

I am sixteen years old and will soon be graduated from the four-year general course at Robert Waller High School. This last year I have taken typewriting and have cut stencils for Mr. R. H. Baker, who teaches Physics here. I have no

other practical experience to offer. However, I am very willing to try whatever your position requires.
My telephone number is Lincoln 7629. I would be so happy to hear from you.

Yours very truly,

Note.—Except for the names and dates, this letter is quoted verbatim. It was written by a girl and won for its writer an interview—and a job—at a time when thousands were jobless.

Portrait of a Boy

Struggling for life that hangs upon a thread,
By care of doctors, nurses, food and wealth,
A tiny baby, rescued from the dead,
Won, by the parents' longing, back to health.

Then, joy abounding in the fun of life;
Unhurt by times of sickness and of pain;
Still growing stronger by the means of strife,
With will determined on the power to gain.

Then came the silent adolescent years;
Hiding the longing for the unknown goal;
Loving the duties, quieting the fears,
Seeking for knowledge to explain his soul.

Then, College! Freedom! now a stage is won!
Riding the wave to feel the pulses throb!
Shirking the duties, laughing in the sun!
Feeling a strength that life can never rob!

Then, crash! and darkness falls across the sky!
The path of hardness looms again in view;
The waves of pleasure that had surged so high
Have passed away, and life begins anew.

* * *

And now, at twenty-three, where does he stand?
Freedom again, but tempered by the past;
Confidence and doubt are marching hand in hand;
The seeming props of life are gone at last.

But now, in darkness, light is breaking through;
The God of Love does not forsake a Soul.
God is our Life, and Life is ever new,
And Life and Love together form our Goal.

—Evelina Porter Doggett
Framingham Centre, Mass.

Teaching, A Respected Profession

CARL P. BIRKELO, STATE TEACHERS COLLEGE,
MAYVILLE, NORTH DAKOTA

"I got the bestest teacher in the whole world," said the first grader to his schoolmates as he was returning home from his first day in school. These words expressed his faith and confidence in the one who became his leader and guide as he crossed the threshold of the public school for the first time.

It occurred to the writer as he heard the child's utterance that it implied an idea which has an important bearing upon the success of the work of the public schools. Would the child have the good fortune of going through the school year still retaining this high regard for his teacher? Could all his teachers and instructors, as he passed up through the grades, high school and college, invite such faith and confidence, and, what would this mean to the child in his training, to society and to the citizenship of America?

The public school is set up as the approved means by which this generation gives to the youths of America the contacts and associations essential for the growth and enrichment of life. These schools we require our boys and girls to attend and the taxpayers to support. Yes, we require by law that the children be associated with the teachers in these schools for a period of eight or ten years, and frequently for a longer period.

In view of this fact it seems reasonable to expect that the leaders and guides of the children be competent, possessed with moral earnestness and a lasting devotion to the highest ideals of teaching. They ought to represent America's best womanhood and manhood. To the children these years ought to be fruitful in associations with teachers whose very per-

sonalities appeal to their highest motives. They ought to be privileged to be taught by individuals in whom they have confidence and who can invite their esteem and respect.

Every profession assumes the responsibility of advancing its interests in the confidence of the general public and in the eyes of those who have intimate contact with it. No professional group can in the long run afford to fail to command this respect and faith, and least of all the teaching profession. Like other professions teaching has a motive of service to others, a consciousness of a social duty and a motive of self-expression,—calling forth the best in its membership and evincing a joy in service. It has a body of knowledge, a group of skills, institutions for training, standards of qualifications and conduct and a professional organization. It embodies all of these characteristics, but it possesses a few of them in a special and unique sort of a way. The essence of teaching is INFLUENCING, and teaching is a profession of personal contacts and personal influences. It makes demands upon the entire personality of the individual, so much so, in fact, that the very personality is an integral part of the profession itself. It is a profession of giving and sharing of self. The material with which it deals is of an unusual type. Plastic youth is a living and reacting material, sensitive to all impressions, and, therefore, requires special care in its shaping. The manner in which this human material is modeled and the influences which are brought to bear upon it have great significance to the youth himself and to the nation of which he is an important part. In this process of influencing and moulding an attitude of respect for the one who makes the impressions and exerts the influences is an essential condition for a favorable and wholesome reaction on the part of the one who is taught. For this reason, an important qualification for membership in the profession of teaching is an ability to build up an attitude of confidence and esteem in the minds of those who are taught.

The teacher has a wider audience than the children whom he leads in and about the schoolroom. His light shines beyond the doors of the school building or campus. Quite unconsciously he makes some interpretation of life and life values to those about in his community. In order to be successful in his teaching service he has need of the confidence and respect of this larger community group. It is quite natural that the faith which the lay public have in education and the schools grows out of the respect they have for those who conduct and administer them. The public's faith is born of the competency, sincerity and the true worth evinced by those who instruct the children. To the parents and the public the word TEACHER denotes something which approaches an ideal and their attitude is determined by the manner in which the teachers measure up to the standards of this ideal. Teachers ought to fail neither the youths nor the parents and fall short of that which is expected of them. These are measures of worth set up for teachers, as for no other group, and they hold true for all teachers regardless of the level of instruction they represent.

The teacher's standards of conduct and personal example in the ordinary social relations form a definite part of his teaching influence. In fact, herein lies an essential test of an individual's fitness to teach and lead the young. The words and deeds of the teacher in his community life reveal his inner qualities and are a confirmation of his moral sincerity, his idealism and the seriousness with which he regards his professional obligations. There are those who hold that the obligation of example in the community ought not be assumed by the teacher, that this is a non-professional matter, and, as such, is an infringement upon the teacher's personal freedom. This may seem true, and yet, who can regard himself as truly professional and still make it an object of no thought. Whether professional or non-professional, it is a matter which has a vital professional significance, because

it involves the consideration of a right teaching influence and the teacher's highest professional success. For the teacher to disregard or ignore it is to reveal a lack of a finer professional sense and understanding.

Like the home, the public school is the nation's character-training laboratory and the director of this laboratory is the teacher. In order to do his task and to attain his ends he employs certain tools and techniques and a body of knowledge. These are instruments, so to speak, which are used as a means to an end. They are requisites for proper teaching but they exist for this purpose alone. The present-day advance in educational methods and equipments facilitate the development of the schools' character-product. They increase the chances for improving the contacts of the youths, thus making for their better physical, moral and mental development and growth. But in his laboratory experiences and contacts the child is not left unguided and alone. The teacher directs him in his activities, in the use of tools and in formulating his judgments. The worth of his contacts is largely dependent upon the fine sense of values and appreciations possessed by the teacher who adds meaning to his experiences. Evidently, this requires character qualities and resources on the part of the teacher, quite aside from his equipments as to scholarship and control of techniques. The attraction exercised by desirable character traits tends to generate an attitude of confidence and esteem in the heart of the child.

An attitude of respect for the one who teaches is fundamental to right instruction on any level. It would seem to be no less true of high school and college teaching than of elementary school instruction. The adolescents in high school and the young men and women in college have need of a leadership and guidance in which they can place their confidence and to whom they can look for inspiration. They crave for associations with personalities worthy of their

respect. The high school age is the age of examining and weighing values and conduct. During these years ideals are built, character traits are fixed and habits are confirmed. Then, as in early youth, they ought to have devoted leaders and guides. The youthful college student, likewise, needs to strengthen his faith in ideals and high conduct and to direct and reënforce his appreciations of life values. And what is more, he needs to lay a foundation for the best possible professional conduct for the days to come. To be associated with teachers whose lives are an inspiration is the rightful heritage of every member of the growing generation and the services of such teachers ought to be the proud boast of every school and college community.

Further, faith in the instructor is a favorable foundation for proper teaching influence regardless of the aim and objective in teaching. There are three general objectives of education: to train and fit for a vocation, for social efficiency and for worthy use of leisure. These call for the development of knowledge, skills, attitudes, ideals and appreciations, in the acquiring of which faith in the teacher's leadership plays an important part. Complete mastery and thoroughness of knowledge invite respect both for the scholar and his scholarship, and vocational proficiency generates admiration for skill and for the one who practices it. Desirable character traits, worthy of imitation, encourage the development of like character qualities in the learner. Proper social attitudes and ideals are inspiring when exemplified in the lives of those who teach. They invite right social standards and serve as conduct controls. As for appreciation, the student and admirer of art, be it music, poetry, or paintings, invites respect for himself and appreciation of the art which is the object of his admiration.

Teaching pursued as an art engenders respect for the one who practices it because it calls forth the finest qualities in his character. As an art, teaching consists in interpreting

life to the learner, whose nature, needs and possibilities the teacher recognizes, and to utilize information and materials to the end that the learner may realize his highest development. Obviously, this challenges the teacher's whole mental, moral and physical resources. Being lost in the art it will absorb his every thought. He will then, at the same moment, be both the scholarly investigator and the teacher, who exerts an influence in teaching with all the power, skill and enthusiasm of the artist. Whether an imparter of the known truths or a seeker after the new, his life habits and practices will point the way to right and happy living. Devoted to the cause of giving light and life, he will inevitably invite respect for his own personality and also for the profession of teaching.

An attitude of respect and confidence being, thus, a basic factor in successful teaching and in the success of the entire public school program, what bearing does this fact have upon the teacher's work and the preparation for the profession of teaching? What does it signify to the teachers already in service and to the recruits about to enter the profession?

The process of improving the mechanical and physical features of our schools must go on, but it is imperative that we give increased attention to excellence in teaching as teaching. Teachers and administrators must forever hold this uppermost in their minds. The personal contact and personal influence aspect of teaching needs to be safeguarded in face of the tendency today towards large-group and mass instruction. It is an unwise procedure to train children and young people in masses without the personal touch, stimulation and inspiration of teachers and instructors.

This higher professionalism requires that we capitalize our present knowledge of the psychology of learning and instructional techniques, and make them contribute towards the proper training of children. Teachers need to re-examine their positions as teachers and leaders,—and this on all levels

of teaching, and be ready to assume the full responsibility of that which teaching, directly and indirectly, implies. From the kindergarten to the university the children and young people are eager for contacts with leaders of character, men and women who are all that teachers might be. Such contacts seem all the more essential today in view of the decreasing character-building influences of so many American homes, and also because of the, too often, unwholesome community environments.

Those who enter the profession ought not enter ignorant of the high obligation which it involves. They should be fully conscious of all that which the teaching service demands and they should be tested as to their fitness for its calling. Such a selection procedure is proper for entrance into any profession and especially ought it to be adhered to in selecting members for the profession which is designed solely for the training of youths.

Lodging in Grasmere

All day we gathered charms that lie
In hawthorn lanes round thatched abodes
Till evening fell on English roads.
The trees whose fingers felt the sky,
White-holly hedges, and a bay
That Wordsworth loved, off Grasmere Lake,
Were purpled in the dusk. Awake
We were, yet dreamed along our way.

A lamp cast light across a sill.
A child's voice called us to come in.
His eyes shone just as if they said:
"I bid you enter by His will!"
The lamp threw rays that seemed to spin
A crown of gold upon his head.

—Dr. Frederick Herbert Adler,
Cleveland Heights, Ohio.

Help Them Dream!

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NO power of the mind is of greater importance to parent and teacher than is imagination. Its absence leaves a home or a school prosaic, formal, cold. Its presence adds vitality, interest, enthusiasm. The reality of a school situation requires it. Ambition lives upon it. Reason finds it indispensable. Art is made of it. Imagination is the dynamic of discovery, invention, progress.

Yet in their application to the task of cultivating personality few phases of psychology are less adequately treated. Habit, memory, skill and reasoning are analyzed with thoroughness and their application to learning pointed out, as though learning were wholly an intellectual process. Yet in subordinating imagination the most available stimulus for learning is neglected. Imagination deserves the most careful study on the part of every teacher, — whether in home or school; and it is entitled to a far larger place and clearer application than it has yet found in the books on educational principles.

In moral development especially is imagination significant. The more mechanical and definite the task the less occasion for imagination. The more personal, inner, volitional, and therefore indefinite the activity, the greater the possible play of imagination. Conduct which has meaning is open to various evaluations and interpretations, and therefore to wonder and conjecture. A self that is yet in the bud may picture an infinite garden of blooms from which to select a pattern. Few and vague are the bounds upon one's dreams of the yet-to-be. Education for character, therefore, may call into play all the powers of imagination, with assurance that they are allies of

inestimable worth. Imagination is the artist that pictures the higher self, the voice that calls, "Something lost behind the ranges, Lost and calling you to go!"

The materials with which imagination works are the elements of past experiences. In their very nature the images that enter into any mental picture are taken from previous perceptions. We perceive only what the specialized sense organs are adjusted to interpret. Each object or experience brings us these sensations in throngs; their patterns give form and character to the experience. The reaction of these sensations upon the nervous system gives us our images. Once impressed they are ours to use as we will. Like the child's colored blocks they may be put together again and again in any pattern that chances. But the images left by sensations which we have received, and no other materials, are at hand for a part in these patterns. The striking differences between the original picture and the fantasies of the imagination suggest the analogy of scraping the pigment from a Landseer's "stag at bay", regrinding and dissolving the various particles, and painting with the same pigment an autumn scene in the Adirondacks. Nothing less remarkable than such a transformation of bits of pigment takes place in the repatterning of countless fact images in flights of imagination. There seems to be little else that limits these creations than the original images employed. These must be provided by sense experiences.

If there is a further limitation it seems to be the adaptability of the nervous system to recombine images. Quickness, alertness, and similar characteristics are probably determined in part by the cell structure of the nerves. There is great variety in the promptness with which minds call up widely diffused experiences and relate them to one another. Consequently there is a wide difference in the number of new associations created. One person, we say, is imaginative, another practical; one poetic, another prosaic; one resourceful, an-

other mechanical or imitative. The difference in a considerable degree is due to the difference in the properties, the conduction rate, of the nerve cells. Within these limits, the teacher of conduct can utilize the imagination freely to picture the choice that will bring a thrill of joy, the ideal that will be deeply satisfying, the personality that will most fully realize the dreams of the present.

A characteristic of imagination which adds greatly to its potency is its power to arouse the feelings. Actual experiences can scarcely arouse the intensity of fear, or of jealousy, of ecstasy, or of sympathy that is readily awakened by a vivid flight of imagination. And the latter has no limits of number or variety, whereas actual adventure can be met only now and then. This awakening of the feelings makes day-dreaming, fiction, drama, play, and all activities which involve high imagination, attractive and fascinating. To the thrill of such experiences one returns eagerly and happily. From the monotony of actual life they furnish delightful relief. This surge of the feelings in connection with active imagination tremendously enhances its value as an agency in character building.

What with the vividness of its pictures, the permanence of its impressions, and the lure of its accompanying feelings, imagination is an educational agency of unmeasured efficacy. And because conduct and character are the most natural objects of its flights its highest effectiveness is in the field of ethical training.

Indeed, imagination lends itself to good outcomes more naturally than to bad (although its ravages when directed downward defy description) because the emotions that rise with it are the strong desires for social approval, high romance, chivalry, and hero worship. What one has not become but is vaguely feeling out after, rises into vivid reality through the image world. So deep a satisfaction gathers about one's dreams of what he may become when in his best moments he dreams his worthiest dreams that the allurement of those

visions and that exalted secret joy draws one back to this ideal again and again. If only some expression of approval from associates can be brought to confirm the vision, this ideal becomes a purpose and a goal. To see a hero, to wish one were noble, and then to picture oneself as having achieved nobleness and attained to the ideal of the hero carries one a long way toward the conscious purpose of becoming what his vision has pictured. This mysterious power invites the teacher to add a few supplementary motives in order to confirm the fascinating vision and make it a working ideal. Specific ideals, like the vague longing for self-realization, are built up largely by means of imagination. An act is performed, a choice is made, based on instinct or imitation; it proves to bring pleasure or value to others; the inner satisfaction which this outcome yields attaches a certain value to the choice. Similar acts yield similar values. Under competition, perhaps, the choice at some time is reversed; the regret and confusion which follow set the previous satisfaction in clearer light. The imagination pictures a crisis in which such a decision is called for under severe temptation; it pictures the self making the noble decision; a feeling of exalted joy comes from the imagined picture; all sorts of cases run in procession before the mind: in each the same decision is made and the same satisfaction felt. Gradually the whole realm of conduct involved in this choice blends into a single type, a single crisis; the choice is made; it satisfies. The mind rests back in contentment in the feeling that no matter in what form this choice is presented, the decision is already made and the will is content with the outcome. This *is* an ideal. It could not have been formed apart from the work of the imagination.

In the field of unsolved crises, also, where character is beaten out under white heat, the imagination plays a further role of importance. It stimulates initiative, resourcefulness, originality. It flashes out pictures of deeds and choices and plans which become suggestions for realization. "Nothing

ventured nothing gained." But nothing is likely to be ventured unless somehow the venture is suggested. It is in this phase that imagination is spoken of as "waking a person up". A person who has few experiences leads a meagre life. He may make no bad choices; but he makes so few of any sort that the good ones are not big and satisfying. He needs to be stimulated by visions of new realms to explore.

Once awakened, the alternatives of action throng the social consequences and moral significance; choices must be made in wider areas and in great numbers. Thus moral growth is accelerated by the awakening of imagination.

In a subtle and seldom-emphasized way imagination serves most significantly in the higher refinements of the moral sense. Many ethical questions are open to no final conclusion on the grounds of logic, because they involve degrees of value which logic cannot fix. They call for insight, for a feeling of value which is possible only to the alert imagination. Questions of social justice involve business sacrifices. Many pronounce such reforms impracticable; there are those who feel that justice is worth any price. The treatment of so-called "inferior" races is determined by the definement of moral judgment. Without imagination moral insight is impossible. For the highest achievement in character, a fine development of imaginative power is indispensable. The captain of industry who feels no responsibility for the indirect injustice of the system, the sophomore who rationalizes away the cowardliness of hazing, the student who cheats only because the instructor is unfair—these cannot revise their moral standards until a quickened imagination gives them a refined insight into moral values.

As we come to understand the laws of human learning better, we appreciate more highly a further service in the cause of moral growth performed by the imagination. It provides vicarious experience. It serves as a substitute for actual temptation and wrong choice by bringing the conse-

quences of wrong choice vividly into consciousness. One need not steal and be branded as a thief in order to discover that stealing does not satisfy. One need not use profanity and feel the choking shame of crushing his finer reverence in order to intelligently renounce profanity. One need not see life at first hand or sow wild oats in order to prove to his eternal satisfaction that bad choices bring suffering and remorse. For too often the pressure of local and temporary companions forestalls the repentance and diverts attention from the remorse; so that a bad habit is begun which may never be broken. But even without this tragic consequence the choice of wrong always leaves some scar; always poisons the character a little. Infinitely safer is the unvarying choice of the highest and the best.

Imagination makes it possible so to choose and still not only to know but to feel the sharp pangs of suffering for wrong, by vividly picturing the act and the emotion of the wrongdoer. Vicarious experience permits the full operation of the law of effect in setting up revulsion at evil, without wounding the character in the discovery.

In the cause of moral training perhaps no function of imagination needs more to be emphasized than this of vicarious wrongdoing and suffering.

Even in the more formal processes of reasoning imagination plays an essential part. When the mind faces a perplexity and something of its nature has been analyzed the imagination is promptly called into play to furnish possible solutions. Explanations "occur" to one's mind; possible means of accomplishing the baffling task "suggest" themselves. These preliminary solutions or hypotheses are essentially products of the imagination. Scientists and inventors have repeatedly told how largely their power of imagination has served in the resourcefulness of their thinking. Dewey describes the capacity of alert imagination as one of the three

limits upon rational thinking, classing it along with mass of experience and organization of experience.

If, therefore, one is to possess sound judgment in choices having social consequences, he must have a keen and alert imagination capable of "finding" provisional solutions.

The most obvious services of imagination are in the field of exploration, invention, literature, æsthetic art, and reform. "Behold the dreamer" may be spoken in derision by the unimaginative; but except by the dreamer no real achievement in any of these fields is possible.

The discoverers and explorers and pioneers who have given new worlds to their fellows were fired by visions of undiscovered sights. The tremendous drive of the feelings which imagination arouses is seen in the energy and persistence in the face of obstacles and discouragements of men like Columbus and the Pilgrims.

> "A voice as bad as conscience
> Rang interminable changes,
> Something hidden, go and find it;
> Go and look behind the ranges!"

Inventions are likewise the gift of the imagination. Faraday saw not the swinging chandeliers but future pendulums. Watt's teakettle was a boiler harnessed to transmit power. The progress of this age is a triumph not of reason only but also, and very largely, of imagination.

Music and art are but the partial expressions in sound and form of imaginative flights that all but elude the grasp of sense. Imagination is their very essence.

Social reformers are often looked upon as fighters, champions of an ideal; but ideals are visioned only by vivid imagination; and every champion of a cause is first a dreamer, an idealist. Peter Cooper, as a youth, dreamed of the "Institute" which he would found. In later years he carried out

his youthful dream. Lincoln as a young man, more than three decades before the emancipation proclamation, crystallized his hatred of the slave traffic into a hope some day to "strike it, and to strike hard".

Sympathy with reform movements is hardest for those whose occupations face them with the pressure of practical realities. Without time for dreaming or occasions to quicken the imagination it is hard to see the better state in outline vivid enough or in colors attractive enough to call forth much of effort or of sacrifice.

Literature is the field in which imagination holds sway without dispute. Every theme from the coldest logic to the wildest passion is enhanced by the touch of the imaginative art. The magic power of happily chosen words to awaken the imagination and the emotions of the reader gives to literature an eternal charm, and an immeasurable influence on human character and ideals. This power to stir the feelings and flash vivid pictures upon the mind is the basic distinction of good literature. Without it stated truth must make slow headway. The mass of scientific knowledge in the possession of a few minds today would revolutionize the thought and life of humanity if clothed in language suited to fire the imagination of the masses. The call to scholarship today is a call for the humanizing of knowledge. Without the dynamic of feeling, which imagination alone can stir, knowledge can but meagerly serve the race.

All these varied services which imagination waits to render indicate that its latent values have hardly been touched. Not only do we fail to cultivate imagination in channels of creative power; we actually crush its normal growth. We kill our poets young.

To the child with untrained judgments, as surely as to the disciplined mind, this capacity brings ingenuity, initiative, resourcefulness. But these mean experiment, adventure, trial and error. And the errors are so numerous and so exasper-

ating that parents and teachers are wont to arbitrarily decree "don'ts". Arbitrary restraints and arbitrary penalties without any provision for the expression of awakened powers and resources set up emotional complications which stifle personality and crush out potential resourcefulness.

The childish falsehood, inevitable in the process of discovering the meaning of truth, is so easily confused with expressions of undisciplined imagination that the latter is often stifled in the worthy attempt to correct the former.

Even the wholesome activity of the child, so essential to the normal development of healthy personality, often proves annoying to the irritable teacher or parent, or out of keeping with the "system" of school discipline based on its tragically false psychology, with the result that here again the child is suppressed and crushed into deadening conformity with the standard of the adult. We kill our poets young.

Moral development calls for more personality, not less. It depends on self-discovery, not suppression. In its very nature it is a process of self-expression and redirection. Every principle of learning calls for initiative, not passivity. In the basic processes just discussed, each with many minor aspects, the cultivation of imagination is of inestimable worth, is indeed a vital necessity for the development of character.

No other function of the human mind reveals the outcomes of an act not yet committed, a choice as yet undetermined. None other reveals the possibilities of an ideal self. These future goals the imagination can picture with a vividness that makes them alluring, that even arouses in advance the satisfaction and exalted joy which their realization will yield. Thus and thus only can the self that is not yet, the self one dreams of being, fight for the choices that will build more stately mansions in the soul.

It is trite to add that every aid to the awakening and ennobling of personality means an enrichment of life's meaning, a deepening of the satisfactions which life yields. Happiness,

it may be repeated, is not a quantitative experience, but qualitative. There are higher and lower forms of pleasure. When the higher has been thoroughly tested and fully tasted no quantity of the lower could bribe one to relinquish the higher. Not the number of pleasures, not the amount of enjoyment, but the level, the quality, the deep satisfyingness of the compensation measures the true happiness of life.

And it is through imagination alone that the unachieved joys in the hierarchy of satisfactions can make their full appeal. It is through imagination alone that the more satisfying joys already experienced can appeal in full strength and vividness against their lower competitors. Imagination, indeed, conditions both the fullest self-discovery and the highest happiness.

Who Shall Make The Curriculum?

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IT makes no difference what you teach a boy, so long as he doesn't like it." Mr. Dooley's remark is the answer of past generations to our problem. But in a hustling age when authority is questioned on every hand, the iconoclasts are blasting at the fountain-heads of the curricular blessings of yesterday. Says Hendrix van Loon: "Our universities and churches are dead as doornails. A movement for improvement has never come out of the American colleges." A lop-sided viewpoint, of course; but educational statesmen admit that the Pierian Spring has become a stagnant pool, while modern youth cries aloud for the living waters. What to do?

With civilization itself a race between education and catastrophe, the greatest war in history has again signalized man's utter inability to solve some of the simplest problems of his existence. Our social problems continue to outrun our solutions. With a government based on universal suffrage, we have a citizenry with typically an eighth grade education, and a body of teachers whose acquaintanceship with the problems of democracy is indicated by the fact that one-fourth of them are not old enough to vote. They are eager soldiers on the firing-line, but who will supply the munitions and direct the battle?

It must be those who are professionally equipped to answer these fundamental questions of curricular construction:

(1) What is the natural inborn equipment of the child, and how far has he progressed in development?

(2) What materials does he need, as an individual and as a member of school, and as a future member of adult society?

(3) In what school grades shall given materials to be used

as stimuli for further growth be placed, and in what order shall they be presented?

During the past the subject-matter specialists dictated our courses of study and textbooks. At first blush it would seem that the men who know most about a subject ought to tell us what to teach. But the subject-matter specialist is on the same footing as any layman when it comes to a knowledge of child nature or of the needs of soicety. He is valuable when the matter of selection and organization of materials is to be decided; even there, however, his chief contribution is derived from his experience in teaching. Knowledge of subject-matter, as an end in itself, is wholly beside the point. As a means to attain individual and social ends, it may be highly important. Again, the specialist, in the very nature of of his mental operations, is limited in his outlook on the curriculum as a whole. He is prone to make specialists of youths at an age when specialization is yet undreamed of; the light of the stars, passing through the prism of his mind, shows only a single color.

"Not subject-matter, but children, must be taught." Your subject-matter specialist is only too glad to dodge the troublesome problems of teaching children, in order to attain the logical and often meaningless organization and formalism so dear to the scholastic mind. And the devil takes charge, we have been reminded, when organization of life-experience into books begins. Even research is obsessed. "Something between 75% and 90% of what is called research in the various universities and institutes of the land," says President Butler of Columbia, "is not research at all, but simply the rearrangement or reclassification of existing data or well-known phenomena." The straw is bound and rebound into a bewildering variety of assorted bundles, but the grain is never brought to the threshing floor.

But evolution, not revolution, is the law in curricular upbuilding. We cannot dispense with the results of the intuitive and experimental methods of many master teachers. Doubly

blessed with deep scholarship and with a love for eager youth, these superior teachers after many years of experience with thousands of youngsters, have been able to present unequalled selections and organization of subject-matter in textbook form. Their works have been the more enduring because the authors were able to humanize the content. Not infrequently the closely allied ability to make effective use of the graceful phrase and the felicitous word further endeared their productions to the hearts of teachers and children.

Since the subject-matter specialist, then, is to be accepted only as a contributor to and not the arbiter of our curricula, we may consider next the pressing and important claims of the organized social body as a whole, which supports education and which through its constituent groups largely controls it. Just which particular social group controls education depends upon which is most awake to the opportunity of control. In America the State is the social agency directly in charge of education. But the State itself is controlled by individuals working in groups, and it generally delegates many educational functions to local units. The matter of control becomes exceedingly complex. Valuable work is performed by the State in setting certification requirements for teachers, making out courses of study, and in some measure selecting textbooks. The teacher-training programs undertaken by the State are exceedingly significant. When the State works through its experts, giving them full professional freedom, it does its best work. But when the State or Nation, by the direct action of legislative mandate, attempts to dictate the curriculum, trouble is ahead.

Social institutions must perpetuate themselves; sometimes they do this by force, often by a gross appeal to human emotions and prejudices, but always through some form of education or training. The Church from time immemorial has known the power of discreetly manipulated courses of study. Parochial and Sunday schools and denominational colleges

keep alive the cause of the Church. Most of the enduring institutions of early history maintained their hold upon mankind through their corner on the meagre learning of their day. Certain industrialists today organize their mill and factory schools in such way that the educational tree of life produces the fruit but not the flower. They prune the tree to a size and shape permitting early and easy picking. The danger comes when any human institutions or organizations misuse an undue amount of power, or become out of date in a constantly changing social milieu. The wise pedagogical sailor on any institutional boat will keep a weather eye open for squalls.

Human brain-power today is primarily devoted to individual, and not group problems. Pure intellect untempered by altruistic emotional tendencies can see little profit in social service. With straight thinking at a premium, social behavior must be reduced to the custom or mores level, in the interest of economy. Hence social thinking, when there is any thinking, generally follows the set patterns worked out in the past when humanity faced similar problems, often occurring under vastly different conditions. Oral reading and beautifully formed handwriting, for instance, were once desirable in an age when a half-dozen men did the reading and writing for the whole community. Many subjects, the use for which passed several centuries ago, are still taught, simply because no one has had time or inducement to think of a desirable succeeding body of material. Worse, teachers tend to rationalize anything they do, in universal human fashion, and often urge some outworn educational creed to justify fruitless practices.

But while the iron hand of tradition lies heavily upon education, at the same time education is indebted to tradition for its very existence. The faith of the unlettered and of the populace in general in certain types of education which have long outlived their usefulness is almost pathetic. Every small

agricultural town must have its traditional high school with its traditional offerings. The whole institutional organization of the public school is deeply and powerfully rooted in public esteem and good will, despite the occasional uprooting blasts emitted by our keener pioneer thinkers. Meantime, the dead wood of tradition shuts out the sunlight from the green branches, and growth is stifled.

During the last two or three decades a new factor in curricular construction has come about in the person of the scientific research worker. Terms, dates, judgments, and whole units of discourse in history, geography, and English are analyzed in terms of frequency of use, values, and difficulty of learning. Laws of mental operation are formulated. The amount of transfer of training is measured. We see the gradual decline of the sturdy influences of personal opinion of earlier days in education. To become noted as an educator a few decades ago, all you needed to do was to take some appealing idea, and broadcast it vigorously in classroom and press for a decade; and the educational world would rise up and call you blessed, the father of the current brand of "modern" education. But now the up-and-coming young schoolman throws philosophy out the window, and fills his head with coefficients of correlation and probable errors. Pearson supplants Pestalozzi.

There is still ample room for mere opinion, however, if it is based on a keen perception of the felt needs of society, is imbued with idealism, and is in keeping with the spirit of childhood. There are a good many intangible elements in teaching concerning which only opinion may fruitfully deal, in the resent stage of human knowledge. Again, the techniques and methods of exact science, statistical procedures, and so on, will be employed by the curriculum builder as means to greater ends, not as ends in themselves. The statistician is only bookkeeper of the gods. The expert curriculum builder is their general manager.

The scientist would make a better leader if he would not so often outrun his followers. Educational practice is a decade behind a considerable body of fairly well authenticated findings. The scientist, presumably working in the interests of humanity, does not humanize his knowledge. The workings of his intellect do not synchronize with the pulsations of the human heart. Hence such debacles as anti-evolution statutes. Significant thinking, like art, becomes a luxury for favored classes. The research worker forges ahead, and the gulf widens between him and the man on the street. The classroom teacher, close to the soil, shares the intellectual lot of the layman. She is appalled by formulas, and falls back on devices of scissors and paste. Prejudices arise and flourish unchallenged. Education cannot cultivate a mind appropriate to our present knowledge and circumstances, and becomes a mere dull tool of tradition.

The biological evolution of a keener human intelligence has not kept pace with the social problems arising from the doubling of the human population of the earth during the last century. Education is only a crude and rather futile supplement to original nature. As a problem-solving and adaptive organ, the brain has all the defects and vestigial manifestations of any other organ of the human body. No variate stock of intellectual supermen has arisen. Eugenics is a fruitless and futile science. Human husbandry is below the level of advancement of animal husbandry. The poorer stocks replenish the earth, while parenthood is increasingly shunned by the worthy. The biologist may be of service only to show us the limits within which we as teachers must work. Our job is to be done over completely each generation.

The curriculum makers, then, must consult the psychologist. The nature of the child mind must largely determine the effectiveness of the stimuli which are to be applied. If education is to be "a continuous reconstruction of immature undeveloped minds into adult mental control of desirable social

aims, meanings, and values," it behooves the teacher to know his materials. Psychology may, however, be as academic and of as little value as Sanscrit to the curriculum builder, who must know the specific facts and laws of mental growth of school children, if he is to graft buds and scions which will grow to fruitage in the mind of youth.

The curriculum cannot be considered apart from the child, who must have at least a coördinate part in any discussion of future curricular developments. Freedom has been defined as the continuous possibility of initiative, and most of our hopes for the future exist in the possible variations from existing mores by the workings of untrammeled minds and unhindered speech. If the social mind grows best under these conditions, that miniature society, the school, can apply the idea. Where can we better learn self-direction than in school? At the very least, we must harmonize our school offerings and the nature of the child mind. The more interaction and the less conflict, the richer the growth. Perhaps more important, the right of each individual for self-realization must be respected, for society after all is composed of individuals. And while in many respects the greatest happiness of the individual is found by harmonizing his life with the life of society, the schools owe to every individual some means of satisfying his spiritual yearnings, certain of his vocational needs, and some help in making the most of his leisure moments.

Enough has been said to show that the making of the curriculum is an extremely complex function. Innumerable factors enter into its construction, and the best thought in almost any field of learning must be drafted into service. The subject-matter specialist helps to select and organize materials in his chosen field, and helps to pass upon the validity of materials selected. But he cannot have a very broad view of the whole field. Tradition is the fly-wheel which keeps the educational machinery moving in times of stress, but it is a

dead weight when quick acceleration is needed, and when new machinery must be installed. The scientist offers all the advantages which objective measurement and rigid treatment of data bring to the solution of any problem; but much in education cannot now be reduced to tabulation of frequencies or to formula; much is art, and the intangible outcomes are too numerous. The biologist shows us the limits within which we must work. The psychologist analyzes our human material, and tells us how to control the interaction of plastic nerve fiber and environmental stimuli. The sociologist is concerned with the group. The unspoken plea of childhood must be given a hearing, but social ends must be served, too, so that individuals may not be too great nuisances to each other in a crowd, and may even be disposed to lend a hand occasionally to each other. Who is to bring together the collective wisdom of all these builders of curricula?

The philosopher, when you can find a real one, is entitled to quite a bit of respect. But we usually distrust him; he insists on ultimates in a world of relativity, and he attempts to put the world in place by manipulating the short end of the lever.

Can the curriculum be made by all the individuals concerned, working together in conference? Ideally, yes; practically, human beings have not yet learned how to pool ideas in any such way; the administrative difficulties are insuperable. Consider the much simpler matter of armaments or of metric measures. Conferences do much good; but such melting-pots so far are only begininng to simmer.

The trained professional educationist, in the finer meaning of the term, is best equipped to handle the problem. But the training of a man whose pronouncements will echo down through the ages is nowhere worthy. The type of graduate training is yet to be developed which offers a broad foundation of subject-matter, of professional training, of technical curricular construction technique, of scientific method of philo-

sophical outlook, and of the many other types of knowledge, skill, and attitudes demanded. When such a balanced type of training is developed, leading to the Doctorate or far beyond, it will still be necessary to insist upon wide experience in teaching and administrative or similar work of a nature to bring ample social contacts to the prospective curriculum builder. His whole range of professional equipment must eventuate in the ability and willingness to make possible a realization in future curricula of the following attributes, approved in curricular conferences:

"First, the curriculum will provide a succession of experiences, projects, or enterprises representative of the life of the learner. Supplementary exercises when necessary will be provided to develop any further necessary skills in the use of the tools of learning.

Second, the curriculum will be selected and organized with a view to give the learner that development most helpful in meeting and controlling life situations; in early years the more immediate situations, and, with increasing experience and understanding, the more remote.

Third, the method by which the learner works out the curriculum will call for all possible self-direction, self-responsibility, and independent thinking."

For the purposes of education, the great guiding outcomes are discovered by thought and feeling; they are personal, subjective, and individual. Only in tiny bits may they so far be weighed or measured by the experts. The classroom teacher comes closest of all people to an understanding of the educational application of the thought: "In the beginning, God created Heaven and earth." She is the curriculum builder par excellence. Without her understanding and coöperation, the finest scheme of the most learned of experts fall to the dust.

The whole end of curriculum study by the classroom teacher as an established procedure in curricular revision is here disclosed. The curriculum builder becomes the super-teacher,

and by a method which the skilled teacher well understands, induces the teacher to study her own problems, drawing from expert opinion only as she may assimilate and apply. For the greatest joy and finest achievement will always come when the worker in any field may say "Behold! This I did with my own hands, and in my own way!" The teacher must be allowed to develop an appreciation of what she does, rather than have forced upon her the necessity of molding human souls under the restrictions of arbitrary laws set up by others.

But it must be recognized that the light of intellect of America's million teachers is merely a dull glow in the immensity of darkness everywhere encompassing the progress of the race. The frail shoulders of America's young womanhood must uphold burdens under which the race has staggered throughout the ages. Not only must she assist us to secure our part of the social heritage, but she must assist us to find a way to carve out our own destinies. Self-realization and the ability to do a large amount of independent thinking come best to us through the quiet encouragement of the greatest curricula makers of all, the classroom teachers. And every teacher can hold as a guiding star the hope that the mind of man, given opportunity through her guidance, may itself select the significant and worthy elements from our social heritage to the end that all humans may live more comfortably among themselves. Only then will the expert curriculum builder attain his goal.

The Vital Point in Teacher Training

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IS there some one thing in the training for each profession which we may pick out as the vital element in that particular professional training? Is it the interneship in the medical profession? Is it the course in contracts in law? Is it practical experimentation with soils, crops, and live stock feeding in agriculture? Of course, opinions may differ, but I have heard many physicians say that the most fundamental part of their training was their hospital interneship.

What is the most vital element in the training of teachers? Let us begin by assuming that we are training secondary school teachers. A survey of the state requirements for certification is a good point of departure, for among these requirements we may reasonably expect to locate those courses which educators agree to be fundamental to the training of teachers. Among the courses found in the requirements of various states are Introduction to Education, Introduction to Teaching, Principles of Secondary Education, Educational Psychology, School Efficiency, Classroom Management, Observation and Practice Teaching, Special Methods, School Law, School Supervision, and School Hygiene. These are only a few of the many courses that a survey of the requirements for teacher preparation in the secondary field brings forth.

The next question which arises is, are these courses all fundamental? Are they of equal value? Is there some one of them which we might pick out as being the most vital and expect to receive some agreement of opinion? To make such an attempt may be plain foolhardiness. However, it seems to me that Observation and Practice Teaching stands out as the most fundamental course in the whole training program. It

is the capstone of all the theoretical courses. This in no way minimizes the importance of the other courses. Introduction to Education and Principles of Teaching are fundamental courses. They are the bones and sinews of the structure, but it is the course in Student Teaching which puts life and breath into the framework.

What would a teacher miss who failed to incorporate in his training a course in Introduction to Teaching or Educational Psychology? Laws and principles too numerous to mention. What would the teacher miss who failed to get a good course in Observation and Student Teaching? He would fail to get a practical first-hand knowledge of children in a classroom, which courses in psychology cannot give him. He would fail to view the human side of teaching—how to judge fairly, how to secure and hold the friendship of the pupils without sacrificing dignity, how to get the coöperation of the pupils, how to deal with backward pupils, how to get the pupils' viewpoint, how to sympathize with the pupils' difficulties and problems, in short how really to know and understand pupils while they are in the charge of the school.

Second, it is only under actual test that the prospective teacher can really see and comprehend wherein he falls short in meeting the standards of a good teacher from the personal standpoint—pupils soon let the teacher know if his voice is too low and inarticulate, he soon realizes that he needs more poise, that he should strive to develop more force and animation in his personality, that he must clothe his thoughts in language suitable to the pupils, that he is weak in accepting responsibility. The self-analyzed teacher may make a fine showing on paper but the acid test is provided by a class of red-blooded boys and girls. Personality is intangible and difficult of objective measurement, but whatever it is, it is a powerful force in the classroom. Whether it can be developed or improved is not definitely known, but certainly a year's teaching experience is an invaluable tool in helping

the individual search out his strengths and weaknesses as relates to his contacts with people.

Third, student teaching and observation in a public school, and in a model school to a lesser extent, is the only way to see and appreciate school routine. Of course, training with artificial problems is better than no training at all. Filling a fictitious register and sending reports to a supposed principal doesn't in any way compare with the same things in a *real* school. It is actual experience with life problems that counts. Artificial plans are usually hollow when a situation for their use occurs. Furthermore, no small part in the training in routine is being on the job, on time, every day.

Fourth, the teacher who does not have the privilege of a course in Observation and Student Teaching will lack efficient classroom technique. It is pretty generally accepted today that scholarship and knowledge of subject matter do not guarantee proper classroom technique. It is likewise true that a course in student teaching or a number of courses in education will not insure knowledge of subject matter. Furthermore, having had a course in student teaching does not stamp the beginning teacher as one bound to be successful, however, it does reduce the possibilities of failure. It is interesting to note in this connection that Dr. Frederick L. Whitney of the Colorado State Teachers College in a study "The Analysis of Teaching Functions,"[1] found the following correlations:

Teaching success and intelligence.....	.025
Teaching success and academic marks.....	.073
Teaching success and student teaching.....	.238
Student teaching and academic marks.....	.386

These data are based upon "1200 graduates (classes of 1920) of two-year college courses in twelve representative state normal schools." Similar results have been reported by Knight and Chew. These correlations are surprisingly low. Courses

1 Jour. Educ. Research, 7: 397-308, April, 1923.

in education acquaint the teacher with ways of motivating the class work, how to secure proper class control, how to make assignments and conduct reviews and drills, how to care for individual differences, how to test, diagnose, and remedy pupils' difficulties, but the knowledge of what to do and the doing of it are two very different things. Likewise, neither native ability nor knowledge of content insure teaching success.

Fifth, practice teaching does not attempt to teach the practice teacher more history, science, or mathematics, but it is a commonplace remark for practice teachers to state that they learned more of this or that while they were teaching than they did while they were studying it in college classes. Theory is of ultimate value only in its application, and application further strengthens the theory or shows that it is untenable. We are stressing that a situation which brings to the learner a "felt need" results in change, or learning. The situations which the student teacher meets are impregnated with "felt needs." Why shouldn't growth take place?

Lastly, professional right-mindedness can be better developed in the practice teaching course than in any other course. An individual may be sure in his own mind that he will find teaching a satisfying profession, but even so short an apprenticeship as one semester may prove to him that he is unsuited to teaching. If the course in Observation and Student Teaching does nothing more than verify or contradict the student's occupational choice, it is worth while. No amount of counselling or introspective study can perform this function so effectively. Professional-mindedness or the understanding and willingness to abide by a code of ideals and ethics of the teaching profession can be meaningful only when the individual has an apperceptive mass to which they can be related; this can hardly result from course work alone.

Older teachers in service frequently say to me, "I wish I could have had a course in practice teaching before I started teaching." It is much more infrequent to hear them express

a wish that they had taken some other education course. Teachers in service stress two points which I have not mentioned above—the opportunity to observe good teaching and the training in self-confidence. No matter how nonchalant or courageous the novice may be he feels that little imp "fear" the first few times he faces a group of youngsters. Nothing can banish this emotion save getting up before a class. This is the case in spite of the fact that American college seniors are almost invariably suffering from "superiority complexes." They need the contact with seasoned teachers; they need to know that the teacher in service who is successful has much to offer which the college teacher of education does not have.

What is the most vital thing in teacher training? To miss any of the fundamental or ordinarily required courses is to lose much, but the greatest loss would be incurred by missing the opportunity to practice while studying.

Plays and Games — Grades I, II, III*

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INDOOR GAMES

Bean Bag Games

TWO children are chosen, two chairs are placed side by side. Four bean bags are placed on each chair. The children sit on chairs at the opposite end of the room. They repeat in concert:

"One for the money
Two for the show
Three to make ready
And four to go."

At the word *go,* both run and get a bag and place it on the chair on which he sat. The one who gets his bean bags carried first and gets back to the empty chair wins the game.

Game II.

Children stand in two rows. Six bean bags are placed at the head of each row. At a signal the first child in each row picks up a bean bag and passes it to the next one who in turn passes it on and the first child picks up another one until all the bean bags have been passed to the foot of the row, and passed back again. The row getting the bean bags on the floor of row first wins the game.

Game III.

Children stand in two rows. One child behind another. All hands are up. The bean bag is passed over head each one touching the bag until it reaches the rear of the line when the last child gets it he runs to head of the line and passes it back as before until each has run with it. The row that finishes first wins.

* The games here will be followed in later numbers of "Education" by Games for the School Room, Outdoor Games, Games for Grades 4, 5, and 6; also Outdoor Games and Games for the Grammar Grades.

Game IV.

Play as above except that the bag is passed between the feet.

Game V.

Children stand in a circle with one in the center. One child throws a bean bag to the child in the center who throws it to another in the circle. This one throws it back to the one in the center.

Game VI.

Children stand in two lines. Bean bag or ball is tossed from one to another, clapping hands before catching bag.

Game VII.

Children form circle. One in the center throws up the ball or bag and calls the name of some one in the circle who runs forward and catches it and then takes the leader's place.

Ball Games

Stand two ten pins up with room enough for the ball to roll between. Children try to roll the ball between the ten pins without knocking them over.

Game II.

Stand one ten pin in a circle. Children stand or sit around the circle. Each in turn tries to knock the ten pin over by rolling the ball against it.

Game III.

Children stand in two rows. The leader in each row has a ball. Each in turn tries to throw the ball into a waste basket.

Game IV.

One player takes his place inside of the circle. The ball is passed around the circle in any direction to any player. If the one in the center touches one in the circle while that

one has the ball, the one touched must take the place in the center. If the one in the center catches the ball while it is being passed across the circle, the one who passed the ball must take the center.

Game V.

One ten pin is stood in the center of the circle. One player enters the circle to guard the pin. The players in the circle try to knock the pin down with the ball. The work of the guard is made difficult by players passing the ball one to the other quickly. The player who knocks the pin down goes in the circle as guard.

Game VI. Roll Ball.

One player has the ball in the center of the circle. This player tries to get the ball out of the circle by rolling it upon the floor with his feet. The players in the circle try to prevent the ball from going through by the use of their feet. Those in the circle clasp hands.

Neighbor, Neighbor

The players stand in a line or circle. The leader A clasps his hands under his knees behind, and in this position hops on both feet up to some one in the circle with whom he begins the following conversation:

A. "Neighbor, neighbor, how art thee.
B. Pretty well, as you can see.
A. How's the neighbor next to thee?
B. I don't know but I'll go see."

B, as he says this, takes the same position as A and hops in the same manner to some one in the line who likewise at the end of the conversation begins hopping. A in the meanwhile keeps on the go to someone else and each player who has started continues hopping until finally there is no one left standing in the line.

(*To be continued.*)

Creative Evolution for High School Biology Teachers

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WHEN Henri Bergson, the great French philosopher used the term "creative evolution" many persons were in a quandary as to what he meant. But recent revolutionary advances in biologic evolution, are, if not proving his position, at least throwing light upon it. This is not the place to make a resumé of the salient points in that philosophy, and I must assume that all biology teachers have read deeply of that thinker who is basically a biologist. Previous philosophers have been historians, dialecticians, economists, metaphysicians. But Bergson belongs to biology. To miss him is to miss inspiration.

Bergson teaches that evolution is not something determinately fixed and immutable, but something modifiable. In the dim past, perhaps, blind chance permitted certain aggregations, certain low forms of life. But with the dawn of intelligence, a new factor of evolution was born. This factor assumes greater importance all the time. Certainly in the case of man, he has been able to modify his environment, and Jennings (Johns Hopkins University) has shown that modification of the environment in the case of protozoa affects the hereditary characters. The protozoa are not able to modify their own environment, but man is.

Dr. T. H. Goodspeed (University of California) and Dr. A. R. Olson have been carrying on a series of remarkable experiments with the Nicotiana tabacum or tobacco plant, subjecting the sex cells to X-ray treatment.[1] The experiments were carefully controlled and enough generations of plants followed to prove rather definitely that the X-rays not only modified the chromosome arrangements of the sex cells, but

1 The Production of Variation in Nicotiana Species by X-ray Treatment of Sex Cells, by T. H. Goodspeed and A. R. Olson, 1928, in Proc. Nat. Acad. Sci., Vol. 14, pp. 66-69.

the modifications were visible and inheritable. New species were produced by artificial means. As one of my colleagues expressed it facetiously: "When you get to monkeying with the chromosomes, anything is likely to result."

Dr. H. J. Muller, Professor of Zoology in the University of Texas, last July announced that by subjecting the sex cells of the common fruit fly (Drosophila) to the X-rays he had produced a large number of variations in the external appearance of the progeny which were passed on to future generations.[2] From a few generations following X-raying of the original flies he obtained most of the variations which it had taken a dozen or more observers watching millions of flies longer than fifteen years to find. Thus is suggested an economy of time, money and labor, a sort of speeding up of the evolutionary processes as it were.

Here then are some facts and proofs with which to confound our obtuse, unscientific friends who doubt evolution and who think that phase of biology is some sort of guess work that deals with "a few fossils" in the rocks and a certain logomachy. "Species Made to Order" is the sign we may some day hang out as our shingle on the laboratory door.

If this is not enough, refer them to the investigations of Dr. Oscar Riddle of the Carnegie Institute (Washington, D. C.) on the sex ratio of pigeons, studies in metabolism which determine the sex. Dr. Riddle pointed out that a high metabolic rate tended to produce male pigeons and a low rate females. In this connection let me call attention to the fact that X-rays, temperature, etc. are energy modifications, are environmental factors which man is artificially playing with or controlling. The old thesis that you cannot modify the chromosomes or the hereditary characters directly, thus seems to be brought into question, in fact seems to be contradicted, if I read the evidence correctly.

2 The Production of Mutations by X-rays, by H. J. Muller, in Proc. Nat. Acad. Sci., Vol. 14, No. 9, pp. 714-26, Sept., 1928. Also see Artificial Transmutation of the Gene, in Science, July 22, 1927.

Now we must not jump at conclusions for these experiments are exploratory and suggestive, but they are sign posts and they do point the way that biologic investigation shall proceed in the immediate future. Biology as an experimental science closely connected with biochemistry and biophysics, rather than biology as an arm chair metaphysics or speculation, is what we look forward to.

The progressive high school biology teacher who loves his subject must not consider these advances purely from their interesting technical aspects but must visualize their wonderful human possibilities for his students. One of the objects of a course in high school biology is to "create an interest in biology." Of course Mendel's Law and many other facts have got to be laid down as a biologic foundation, for these new revelations must be approached gradually in a logical manner. However, this is pedagogy. Each teacher ultimately works out his own methods if he knows his subject. The best pedagogy of biology I know of is more and more, newer and newer knowledge of what others are doing. The high school teacher has little chance, overworked as he is, to carry on independent investigation, so the best thing he can do is to try to keep informed of new developments.

Another fertile field of investigation for the high school biology teacher is that of endocrinology or effects of various glands on personality. The old-fashioned introspective psychology is *passe* and in its place we have that based partly at least upon far-reaching results of glandular functioning. I like to drop in on my friend Dr. McCloskey in the Bureau of Drug Control, U. S. Department of Agriculture, and let him explain his tests on animals of the new pituitary (anterior and posterior lobes) extract, epinephrine or adrenalin preparation, thyroid extract and other substances, as he works to standardize these and make them known quantities safe for human beings. "Biological Assay" is the way he designates it all. This makes it more concrete than merely reading about it.

Dr. R. J. Hersey, of Wheeling, West Virginia, and a group of Wheeling physicians have revealed recently that they have been studying a method to cure crime, the method consisting of dissolving the thymus gland with the X-ray. Dr. Hersey said their work tended to show that there is a certain gland near the throat of small children, which should vanish as the child grows up, but they found it in criminals and insane persons. It is their theory that this ductless gland causes such persons to be abnormal and that the trouble can be eradicated with the X-rays. The opportunity is here presented to the biology teacher to show to his pupils that certain persons are criminals not because they are "bad hearted" or will it, but because they are victims of hidden defects. I would not say it is all as simple as Dr. Hersey apparently indicates, but his investigations are part of the problem and possibly part of the solution. Biology as a training for better citizenship here has good support. When our pupils go out from school if they have been taught to look upon our social problems as capable of a scientific solution instead of the traditional way, we are making good citizens of them. It is a big job, and the real biology teacher has to work hard at it to keep abreast of recent experimental evidence. Always there must be a caution not to generalize too far from too few particulars. Sweeping statements are to be avoided and the discussion must be kept within the bounds limited by the scope of the experiments. Many experiments along the same line by different investigators, experiments carried out over several years' time, of course tend to strengthen the probabilities of exactitude and truth of the general proposition under study.

I do not know when I ever enjoyed a course more than that in genetics which I took this year under Dr. W. B. Kemp of the University of Maryland in the School of Graduate Studies of the U. S. Department of Agriculture. Here, I found something fascinating and fraught with the greatest possibilities for transforming (as well as understanding)

our economic plants and animals including man himself. I saw too an additional evidence of the truth of evolution and an indication of one of the ways it may be effected. To better express this relationship, I can do no better than quote from a book just off the press. It is by Prof. Arthur Ward Lindsey, of Denison University, is entitled "Textbook of Evolution and Genetics" and is published by Macmillan. I heartily recommend it to every high school biology teacher:

"Through the development of the science of genetics accurate data have been accumulated on the mechanism of the transmission of characters which must be involved in the origin of species as well as in the origin of individuals. The facts available are not yet wholly correlated with other fields of biology but they are sufficient to furnish a sound foundation for future progress. Best of all, they encourage the broad thinking which alone can arrive at great truths. . . . Late years show an increased emphasis on the philosophical aspects of the problem, and *purposive* evolution is now popular as a modification of the older and more mechanistic theories. The chief problem of modern evolution, however we approach it, is always, *how it occurs. The fact of its occurrence is accepted by all schools of thought* and the biologist can scarcely avoid the conviction that there is still much to be explained on the basis of known facts before recourse must be had to purely philosophical assumptions." (p. 17.)

It takes little stretching of the imagination to realize then that the "mapping of the chromosome" with its elusive genes has become as exciting a pastime with geneticists as exploring the structure of the atom is with the physicists or a world series with a baseball fan.

The high school biology teacher must not only keep up with the technical advances of this fascinating subject but he must keep his eye open for practical applications especially to the life of man. As I have often pointed out in my articles, it is the function and duty of the high school teacher to see the social or sociological bearing of these things and

point them out to his pupils for this is all the biology many of the pupils will ever have. Not more than half of them will go to college. If the teacher can make the subject interesting and profitable from a broad human standpoint, he will create in the soul of his students an interest in biological progress that will grow through the years. The teacher who specializes ingrowingly can only offer the dead dry bones of the past—the fossils—when he has the breathing, living realities, the flesh and blood animals (or plants) right before him. Indeed, such a specialist teacher is himself a fossil and ought to be buried out of sight. For our pupils are going out into a social world and their scientific ideas must be socialized.

Now, it is hard to point out in this brief paper, all the intimate connections between genetics, endocrinology and our social problems. But the connections are there, visible to those who take the time to look for them. Even such apparently diverse things as intelligence and nutrition as revealed by the sixteen years' study of Dr. John Munroe of Long Island University, are closer than we suspect.

In conclusion, I would say, that the newer researches and experiments in biology seem to indicate that environment (and that includes the X-ray experiments) plays a far larger part than the biology of the past gave it. Within the cell itself there is an environment of the chromosomes as Dr. H. S. Jennings has shown. This forever knocks in the head the old fatalistic conceptions of a damning "heredity." It opens up new and brighter possibilities for education and for the human race. It puts the power of conscious self-direction within the hands of man himself. It makes evolution a matter of human intelligence but also imposes the necessity for the formulation of goals and ideals.

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CULTURE: A Prose Poem

To be at home with those from all walks of life; to share the companionship of the great men and women of all literatures and of those who are near in the flesh; never to miss an opportunity of seizing upon a noble thought; to get understanding from children and wisdom from bees, birds and flowers; to have ears that are open to the myriad harmonies of the world of nature and eyes that discern the manifold glories of the universe; to worship at the shrine of Beauty be it enthroned in temple, grove, ripple of water or haunting voice of woodland bird; to cherish the remembrance of kindness received and to pass it on to those less fortunate than we; to have a heart so attuned to the infinite Compassion that no claim on it may be laid aside; to hate no man but all sin; to condemn no man unheard; to believe that the good in man's soul is but waiting to be roused by the challenge of trust; to be so endued with the spirit of patience as to abide steadfastly though humbly in the paths of righteousness and peace.

—Linda Rider,
Berkeley, California.

American Notes—Editorial

The Editor of EDUCATION lives in Braintree, Mass., a rapidly growing New England town ten miles south of Boston. It has had a place "in the sun" from "Revolutionary" days. Its Puritan faith and practice, inherited and perpetuated throughout the centuries, still linger more or less, notwithstanding the influx of people from everywhere, and with all sorts of customs and beliefs and ideals, or the lack of them. Some famous pastors have ministered to its churches; the Reverend Richard Salter Storrs, for instance; and it boasts of an excellent Fitting School, Thayer Academy, which has had a series of noted Principals; it has sent many useful boys and girls out into all sorts of employments, official services, professions, and propagandisms,—as is the way with New Englanders. The restless sea beats its eastern coast; and, on its shore, ships have been built, shoes have been made and sent to the world's end; and now, among other things, great oil refineries supply the section with heat and light and other things that were never dreamed of by its earlier inhabitants. What a wonderful thing is *Life* and *Neighborliness* and *Progressiveness!* New Englanders are sometimes thought of, and spoken of, as conservative, and cold, and self-sufficient, and self-confident. Well,—NO! Not if you get at them and understand them, and fathom that which is in their souls and their hearts. History reveals the truth of their make-up. And where in the world shall we look to find their superiors among the nations?

As we write these words we take up a local paper and read that "Braintree voters have taken the wise course in approving a long-range plan for meeting school needs. Some courage is required for the appropriation of a $100,000 addition to the Lincoln school and a new $140,000 grade school at the Highlands, in addition to some $30,000 to $35,000 for a through road to furnish proper access to the latter building; but such appropriations are inevitable. Braintree is growing, and these demands for constantly increasing school accomodations are only one sign of growth. Quincy's experience alone is enough to demonstrate to Braintree that best results are obtained with the least burden by keeping a school-building program constantly in mind and constantly developing. If the building program is permitted to lag behind the growth of the town, there will come a time when extra large appropriations must be made in order to catch up with imperative needs. It is easier and better

to keep abreast of requirements, and such a course helps to make a town attractive to the right sort of new residents."

In a recent number of a New England daily we found, and here quote, the following: "President Hoover in an article entitled 'The Need for College Graduates in National and State Politics' points out that the complex structure of society requires more and more the technical skill and background of the college graduate. The article appears as one of a series written by outstanding leaders of American political life for 'the oldest college daily.' The President's article is, in part, as follows:

"The need for college graduates in State and National politics is simply the need for trained minds and formed characters that exist in all departments of modern life. The increasingly complex structure of society requires more and more of the technical skill and of the cultural background that the colleges undertake to provide. As politics is but one asset of the social order, its need of men of special educational equipment is as obvious as this need is now in business or the professions."

In connection with the above we may aptly quote the following, also:

"My country . . . gave me, as it gives every boy and girl, a chance. It gave me my schooling, independence of action, opportunity for service and honor. In no other land could a boy from a country village, without inheritance or influential friend, look forward with unbounded hope.

"My whole life has taught me what America means.

"I am indebted to my country beyond any human power to repay. It conferred upon me the mission to administer America's response to the appeal of afflicted nations during the war. It has called me into the cabinets of two presidents. By these experiences I have observed the burdens and responsibilities of the greatest office in the world. That office touches the happiness of every home. It deals with the peace of nations. No man could think of it except in terms of solemn consecration."

Excerpt from Herbert Hoover's message to the Republican National Convention on receipt of word of his nomination for the presidency.

Here is a clipping from one of our exchanges; it is worth while, and should be widely "clipped" by others.—*The Editor.*

The "thoroughbred" is the title Joseph T. Griffin, principal of a

New York City public school, gives to his ideal teacher. In a series of articles Mr. Griffin has written in the *New York Sun* he considers:

1. The inspirational teacher, whose performance varies from low to high but whose memory lives pleasantly with her pupils.
2. The "scatterbrain" teacher, who is popular enough but who is aggravating to her supervisors and her fellow-teachers.
3. The over-conscientious teacher, who has no measuring stick for the important and unimportant.
4. The rebel teacher who is "agin" everything in the system.
5. The old-style teacher, obsessed by discipline, but withal earnest and sincere.
6. The "flapper" teacher, who is much on the job in her classroom and who handles things efficiently and successfully.
7. The "thoroughbred" teacher, who has all the good points of the other types and none of their inefficiencies.

"The thoroughbred may forget all about her school and its troubles when she hangs up her keys at the close of the day and blithely enters her own circle of activities, but while she is in school she plays her part 'like a soldier and a gentleman,'" concludes Mr. Griffin.

The Congregationalist, one of our highly esteemed "exchanges," brings us the following good news, viz.,

Mr. Milton H. Wilson, one of the founders of Wilson Brothers, manufacturers and wholesalers in men's furnishings, left to Northwestern University in his will $8,000,000 for the use of the college of liberal arts. This gift was made with the expressed wish that the income should be used to build up the most outstanding undergraduate school in the West. He believed that educational institutions must be directed by profound educators. He had already given the university more than $1,500,000.

Mr. Frederick C. Austin, a Chicago manufacturer, gave a $3,000,000 building to Northwestern the other day. The aim of the donor is that the income from the property shall be used as an endowment for the selection and training of business executives. He believes that, increasingly, business must play a larger and more important role in human activity, and that it must therefore emulate the professions in the training of its leadership. He is in the prime of life and will therefore be able to watch the development of his plan.

Buffalo Looks at Its Movies

A survey of the motion-picture theatres of Buffalo has led the juvenile-protective department of the Children's Aid Society and the

Buffalo Council of Churches to recommend a more rigid State law relative to the construction of the theatres, better enforcement of safety rules and sanitary supervision, increased use of public schools for children's matinee pictures, and legislation permitting and regulating special matinees for children in the theatre buildings. The final recommendation offered is that a representative group of citizens be formed in each community to work in coöperation with the theatre managers toward the development of higher standards in the pictures presented. The managers have indicated that they will be only too glad to confer with responsible groups and that they will welcome constructive suggestions.

The School Band Movement, so says C. M. Tremaine, Director of the National Bureau for the Advancement of Music, is rapidly progressing.

"Less than half a dozen years ago," he says, "a school band or orchestra was a novelty. Today they are as accepted an activity in the progressive and well-conducted school as its debating society or other outlet for extra-curricular effort. In 1924, when the school band movement first got under its organized way, there were enough of these school organizations to hold contests in eight states, with a total of 72 bands competing. Last year more than 500 bands, with a total membership of about 25,000, held contests in 31 states.

The National School Band Contest was held last year in Joliet, Illinois, with twenty-seven of the picked bands from fourteen states competing for the grand trophy awarded by the National Bureau for the Advancement of Music to the school band winning the championship of the country. The national contest will be held this year in Denver, Colorado, May 23-25. From the number of preliminary State contests and their entrants, it is estimated that at least 30,000 members of school bands throughout the country are engaged in these contests."

Book Reviews

From the Macmillan Company: REPRESENTATIVE MODERN SHORT STORIES. Edited by Alexander Jessup. Price $3.00. There are about a half hundred stories, beginning with Washington Irving's "Rip Van Winkle" and ending with Margaret Prescott Montague's "The Last Tenth." At the close of the same, there follows a much larger list of notable stories, down to 1925. Individual readers and school classes will find this book timely and useful. It covers many requirements of readers and teachers in schools and homes.

The same publishers furnish us the following: BASKETBALL FOR WOMEN. By Lou Eastwood Anderson, B.S., formerly instructor in the Department of Physical Education and Hygiene for Women in the University of Washington. The Introduction is by Frederick E. Bolton, Ph.D., of the same institution. The game is shown to have many values for students and others. There are several excellent pictures and diagrams that are admirable in their clearness and attractiveness.

Again by The Macmillan Company: NEW PRACTICAL PHYSICS. By Newton Henry Black (Harvard University) and Harvey Nathaniel Davis (Harvard). The authors have "stressed the applications of physical principles which we see in our daily lives rather than the subtleties of malecular physics and atomic structure." This book should be in every school library, and its usefulness is patent to any one who wishes to build a healthy mind and body.

From Charles Scribner's Sons: MUSIC FOR YOUNG CHILDREN. By Alice G. Thorn. The author is assistant in the Department of Kindergarten-First Grade Education, Teachers College, Columbia University. Children are interested in music. But they have their likes and dislikes,—showing that the human being knows instinctively that which is good and that which is bad. This instinct must be cultivated. We must not deny our children's wholesome instincts. We must have such books as this. The schools should use it. It gives the elements of learning music. It is simple and puts the little folks on the right track in (I) the Introduction, (II) Singing, (III) Rhythmic Activity, (IV) the Use of Musical Instruments, and (V) Concert and Musical Excursions. Do not overlook, but rather *look over* this book, if you are a parent or a teacher.

From Little, Brown and Company: THE NEW WIDE AWAKE FIRST READER. By Clara Murray. The younger pupils will delight in this beginning reader. It makes it easy. It deals with those experiences that they have had and are having. The pictures reflect many things that they have done and are doing. The sentences are such as they say when in their play. They are able to read them at a glance, almost. We loaned a book much like this to a little girl who had to await her mother who was out shopping for an hour or so. She took the book for a full hour and was as still as a mouse. When her mother returned for her, she showed the book to her mother and rapturously recited several pages aloud to her. That's the kind of a "kid" and book. We gave it to her, and that made us, too, happy.

We are pleased to receive a new book from Houghton Mifflin Company on PRACTICAL SPEECH-MAKING. Its stress is upon the Extempore Method. It is written by Edwin DuBois Shurter (University of Texas) and Charles Almer March (University of California). In these days a man (or a woman, shall we not say) is not really educated unless able to stand up and express the thought that is in the mind and heart and that should be held by others. This book has twelve excellent chapters. Master them, in school or at home, and you will raise your "score-card" as a member of Society, to the limit. The price is $1.60.

Same publishers (Houghton Mifflin Company): THE EDUCATION OF THE MENTALLY DEFECTIVE CHILDREN. The chapters of this book consist of Psychological Observations and Practical Suggestions by Alice Descoeudres, translated from the French by Ernest F. Row (Econ.), L.C.P. Price $2.00. Our present ideals and efforts for the development of the mental abilities of defectives are impelling. This book will guide our labors, and whatever can be done will be done, and that intelligently, by those who study and follow this timely study of the situation.

From D. Appleton and Company, New York, N. Y.: THE HIGH SCHOOL LIBRARY, ITS FUNCTION IN EDUCATION. By Hannah Logasa. A book which should be in the library of *every* school! It will surely help in making the pupils fond of good reading.

A HANDBOOK OF STUNTS. By Martin Rodgers, M.A. (Jamaica Training School for Teachers), Jamaica, N. Y. With an Introduction by Jesse Feiring Williams, Teachers College, Columbia University. The Macmillan Company. Fully illustrated.